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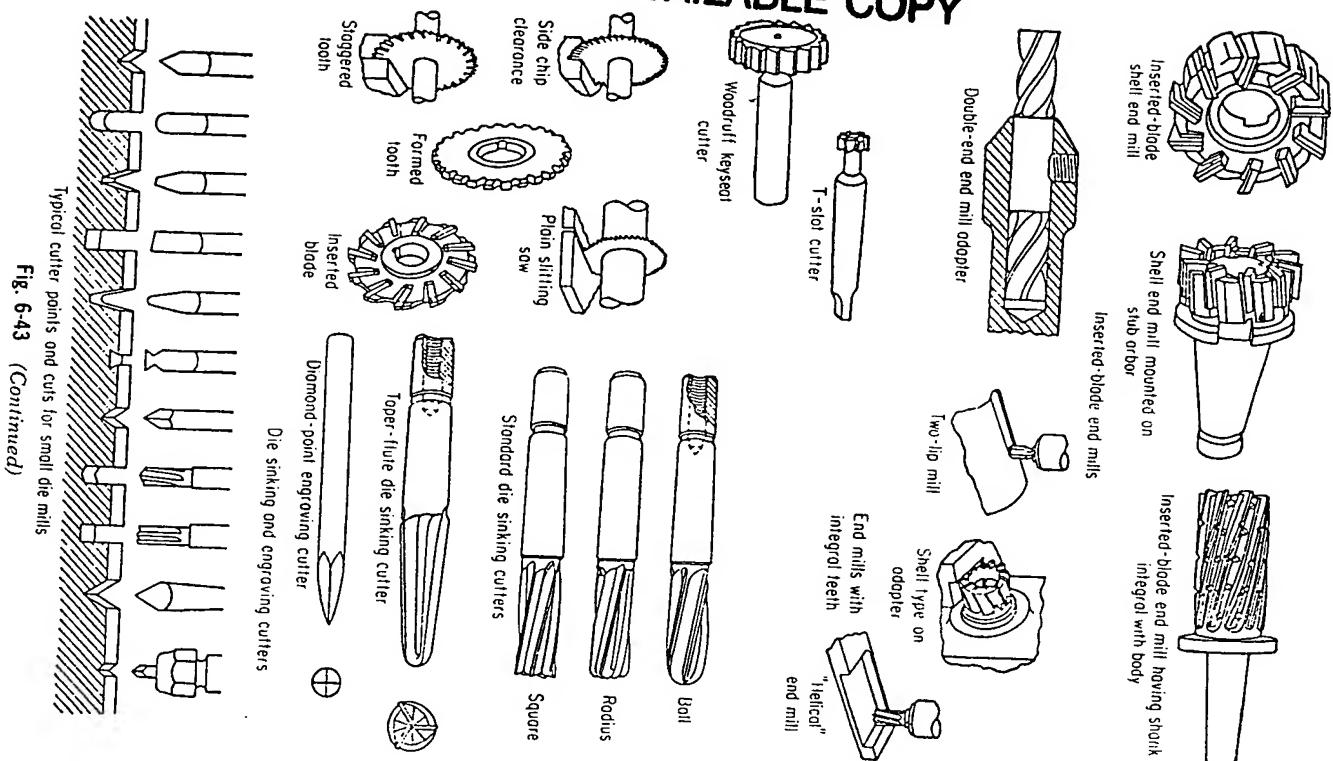


Fig. 6-43 (Continued)

TOOL AND MANUFACTURING ENGINEERS HANDBOOK

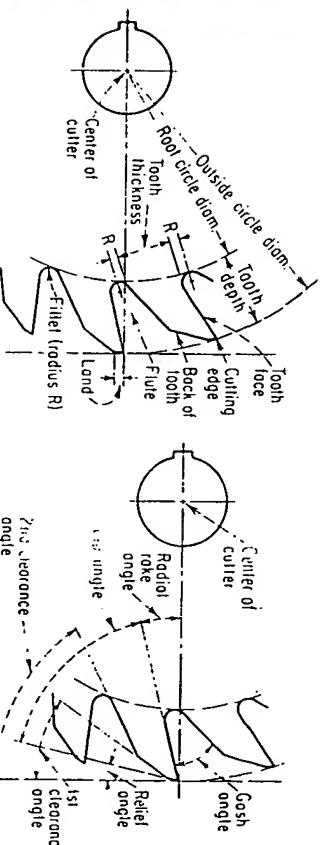
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Fig. 6-44 Parts of tooth of a solid plain milling cutter.

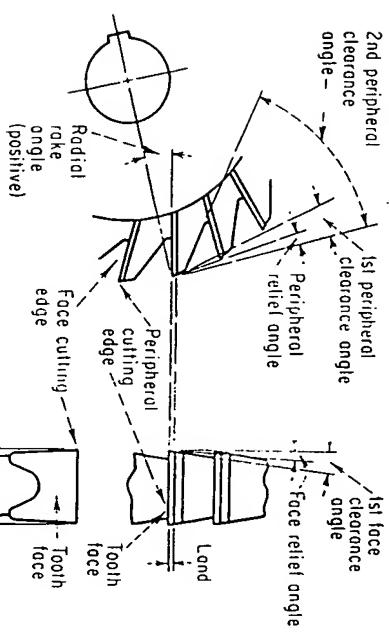
Flat Relief. A relieved surface behind the cutting edge which is essentially flat.**Primary Relief.** The relief immediately behind the cutting edge.**Relief Angle.** The angle formed between a relieved surface and a given plane tangent to a cutting edge or to a point on the cutting edge.**Radial Relief.** Relief in a radial direction measured in the plane of rotation. It can be measured by the amount of indicator drop at a given radius in a given amount of angular rotation.**Dimensions of standard milling cutters.** The term "standard cutters" embraces the types and sizes that are listed in most manufacturer's catalogs and carried in stock for immediate delivery. They are principally of high-speed steel. A few inserted-tooth cutters are listed as standard stock items, but generally their requirements call for a special design for a specific duty.For the complete listing of sizes and limit dimensions for standard cutters, reference should be made to the American National Standards B94.19-1968³ and B94.8-1967.⁴ A summary of the tolerances on standard milling cutters is given in Table 6-9.**Hand of rotation of milling cutters.** The hand of rotation of any cutter may be determined by looking at the cutter end of the spindle of the machine on which the cutter is to be used. If the cutter rotates counterclockwise, it is right-hand; if it rotates clockwise, it is left-hand. The hand of helix is determined as follows: if from the front or cutting end of the cutter the helix appears to have a counterclockwise contour, it is a left helix; if from the same end of the cutter, it appears to have a clockwise contour, it is a right helix (Fig. 6-54).

Fig. 6-45 Angles of the tooth of a solid plain milling cutter.

Fig. 6-46 Nomenclature of solid side-milling-cutter teeth.